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AF/1761



**PATENT**  
**Attorney Docket No. 00-423**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Gary H. ANDERS  
Daniel W. KING

Application No.: 09/909,913                      Group No.: 1761  
Filed: 07/20/2001                                  Examiner: Drew A. Becker  
For: LIQUID INFUSION AND TENDERIZATION PROCESS, APPARATUS, AND PRODUCT

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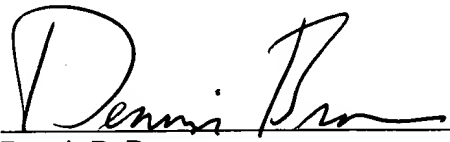
**TRANSMITTAL OF APPELLANTS' REPLY BRIEF**  
**(PATENT APPLICATION--37 C.F.R. § 41.41)**

1. Transmitted herewith is the REPLY BRIEF in this application, with respect to the Examiner's Answer dated February 9, 2006.
2. No additional fee is believed to be due. However, if any fee is made payable by the filing of this paper, please consider this our authorization to charge the Deposit Account of the undersigned, No. 06-0540.

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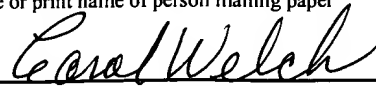
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**CERTIFICATION UNDER 37 C.F.R. § 1.8(a)**

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**PATENT**  
**Attorney Dkt. No. 00-423**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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Group No.: 1761 )  
)  
Examiner: Drew E. Becker )  
)  
Confirm. No. 2400 )

**APPELLANTS' REPLY BRIEF UNDER 37 C.F.R. § 41.41(a)**

**Mail Stop Appeal Brief – Patents**  
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This Reply Brief is submitted in response to the Examiner's Answer mailed February 9, 2006. The Examiner's Answer contained no new grounds of rejection. The Examiner has withdrawn his rejection of dependent claims 4, 5, and 30 in view of the prior art and has also withdrawn his rejection of claim 1 under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,176,071, issued to Klaassen. In response to all of the Examiner's remaining rejections, Appellants hereby incorporate by reference and restate in its entirety all of the Amended Appellant's Brief Under 37 C.F.R. § 41.37 which was

previously presented by Appellants in this appeal. In addition, the following is Appellants' Reply to various new arguments made by the Examiner in support of his previous rejections.

## **ARGUMENT**

All of the Examiner's pending rejections of Appellants' claims are based upon either (a) the disclosure of U.S. Patent No. 4,467,497, issued to Peterson, et al. alone, (b) a combination of the teachings of Peterson, et al. and U.S. Patent No. 5,082,678, issued to Margolis, or (c) the combination of Peterson, et al. and Margolis, along with other prior art references. In attempting to maintain and support these rejections in his Answer, the Examiner now relies on a reinterpretation of Peterson, et al. which differs significantly in many respects from the Examiner's prior discussions. Further, concerning the rejections of Appellants' claims 14-17, 37-39, and 98, the Examiner now relies on certain new arguments regarding U.S. Patent No. 3,347,679, issued to Nordin and British Patent No. GB957356. However, as set forth below, the Examiner's current interpretations of the prior art references and the rejections founded thereon are contrary to the actual teachings of the prior art references themselves. Moreover, the Examiner's current theories simply ignore various key features called for in Appellants' claims.

### The Examiner's New Interpretation of Peterson, et al.

All of Appellants' pending claims call for a method of treating food items which comprises the step of pressing the food items using a pliable material which conforms to and at least partially surrounds the food items during pressing. Many of the claims call for pressing the food items between two layers of the pliable conforming material and claims 27, 29-34, and 37-42 call for pressing the food items between two layers of such material wherein the surface of the first layer and the surface of the second layer conform to and at least partially surround the food items in the step of pressing.

In attempting to support his rejections of these claims, the Examiner has been forced to resort to a significantly revised interpretation of the disclosure of Peterson, et al. According to the Examiner's current interpretation, as each meat product item travels through the Peterson, et al. apparatus from one opposing pair of pressing rollers to the next opposing pair of pressing rollers, the product will be positioned momentarily in a space between the succeeding roller pairs wherein there is no pressing action exerted on the product. Consequently, according to the Examiner's theory, when the meat product is positioned in these intermediate non-pressing zones, the meat product will push against the opposing conveyor belts of the Peterson, et al. system in an effort to expand back to its non-pressed thickness. Then, as the theory goes, the upper and lower belts yield to this expansion in the non-pressing zones and flex outwardly so that they thereby "naturally conform" to the meat product.

The contention that, "the meat would push the belts outward in an attempt to expand to its unpressed thickness when passing through the spaces between the pairs of rollers where there is no pressing action" such that the belts "would naturally conform to the meat product as the meat product traveled through the spaces" is repeated and relied upon throughout the Examiner's Answer and is absolutely critical to all of the Examiner's rejections (see Answer, e.g., pages 5, 7, 10-11 and 13).

In addition, the Examiner now also contends that (a) the reinforcements used in the Peterson, et al. belts are merely for the purpose of preventing what the Examiner refers to as the "soft rubber" from tearing under the stress of being stretched (Answer, page 14), (b) Peterson, et al. essentially teach merely an automated method for tenderizing meat products (see, e.g., Answer, page 16), (c) the term "mangling" used by

Peterson, et al. is simply intended as a synonym for this rolling, pressing, or tenderizing process (Answer, pages 17-18), and (d) Peterson, et al. do not specifically state what level of pressure is produced in their apparatus so that there is no evidence that this pressure would be higher than the pressure used by Margolis (Answer, page 18).

The Examiner's Interpretation of Peterson, et al. Cannot Be Reconciled With the Actual Disclosure and Teaching of the Peterson, et al. Patent

The first problem with the Examiner's reinterpretation of the Peterson, et al. process has to do with the food product, itself. Peterson, et al. disclose only a process for the production of thin slices of frozen meat. Specifically, as already set forth in detail in Appellants' Amended Appeal Brief, Peterson, et al. disclose only a process wherein thick chunks of frozen meat (at between -5°C and -2°C) are literally "mangled" and mashed between a pair of converging conveyor belts to produce thin slices of frozen meat having a thickness which is only about 1/10th of the beginning thickness of the frozen chunks. The fact that the product must be completely frozen could not be clearer. Because the product is completely frozen throughout the process, there is no reason to believe, nor do Peterson, et al. state or suggest, that the frozen product would have any tendency to attempt to expand back to its unpressed thickness as it travels through the Peterson, et al. system. Rather, as already discussed in Appellants' Amended Appeal Brief, the disclosure and drawings of the Peterson, et al. patent indicate that just the opposite is true, i.e., the Peterson, et al. process produces a frozen slice-like product which remains flat.

The only "expansion" of the product noted by Peterson, et al. is at column 3, lines 28-31 of their patent where they state that:

By providing the conveying belts 6, 12 with a honeycomb surface, the slice will not move around between the conveying belts but will keep still. It will then expand well.

However, as is clear from the context, the expansion of the meat product referred to by Peterson, et al. is not an upward and downward expansion wherein the frozen product somehow flexes the upper and lower belts as the frozen product attempts, by some unknown means, to return to its original thickness. Rather, Peterson, et al. are referring to the necessary horizontal flow of the frozen product between the conveyor belts as it is mashed into a thin slice.

The second problem with the Examiner's reinterpretation of the Peterson, et al. process is the contention that the belts are soft and stretchy. This issue has been thoroughly addressed in Appellants' Amended Brief. Appellants would further note, however, in regard to the Examiner's new arguments, that, rather than teaching that the belts of the Peterson, et al. apparatus are composed of a soft rubber material which is intended to stretch during the mashing and mangling operation, Peterson, et al. clearly indicate that the belts are not intended to stretch and they therefore make provision for re-tensioning the belts in the event that any stretching ever occurs over time. As stated by Peterson, et al. at Col. 2, lines 40-43:

In each row of rolls, a roll terminating the row should be adjustable in a well-known manner to enable a control of the tension of the belt and lengthening of the belt if this has been stretched during its use.

The Examiner's theory is also completely contrary to the clear teaching throughout the Peterson, et al. patent that the longitudinal channel 14 running between the upper and lower belts of the Peterson, et al. apparatus is and must be a channel of flat,

rectangular cross section of decreasing height in the direction of travel. As stated by Peterson, et al. for example, at Col. 1, lines 27-38:

The method according to the invention for the production, from relatively thick flat pieces of frozen meat, for example roast beef, of thin slices suitable for roasting or grilling, is characterized by the fact that the flat meat pieces, before thawing above the freezing point taking place, are passed through a channel-shaped space of flat rectangular cross-section and of decreasing height in the direction of conveyance, which space is formed between two opposite endless conveyor belts running in the same direction and in which the meat pieces are mangled and rolled to a desired final sliced thickness substantially without loss of meat juice and blood.

(Peterson, et al., Col. 1, lines 27-38, see also: Abstract; and Col. 2, lines 6-12.)

In contrast, if the Examiner's theory were correct, then as the meat products were conveyed through the conveying channel 14 of the Peterson, et al. apparatus, the channel would not be one of flat rectangular cross section of decreasing height in the direction of conveyance as described and shown throughout the Peterson, et al. patent. Rather, the channel 14 would consist of a sequence of (a) narrow pressing locations where the pairs of opposing rollers are located followed by (b) expanded, bowed, non-rectangular, non-pressing areas of increasing rather than decreasing width.

The Examiner's theory also contradicts the actual teaching of Peterson, et al. concerning the existence of intermediate zones where there is no pressing action on the meat product. In this regard, the succeeding pairs of rollers must be much closer to each other than suggested by the Examiner. As stated, for example, at Col. 3, lines 15-19 of the Peterson, et al. patent:

The distance, seen in the direction of conveyance, between successive pairs of rolls is less than the size of the slice which means that the meat slice, during its passage through the channel, always will be in a nip of any of the pairs of rolls.



Concerning the other new arguments made by the Examiner, Appellants note that there is no basis for believing either that Peterson, et al. merely intended to teach an automated method for tenderizing meat products or that Peterson, et al. intended to convey a kinder, gentler meaning of the word “mangling.” The word “mangling” or “mangled” appears in the Peterson, et al. patent at least eight times. (See, e.g., Peterson, et al. Abstract; Col. 1, lines 37, 39, and 52; and Col. 2, lines 53, 56-57, 59, and 61.) Moreover, as set forth in detail in Appellants’ Amended Brief, the process described by Peterson, et al. is one wherein a completely frozen chunk of meat is mashed and mangled to a size of about 1/10th its original thickness.

Finally, contrary to the Examiner’s remarks, Appellants have provided abundant evidence in the disclosure of Peterson, et al. which supports Appellants’ assertion that the pressure applied in the Peterson, et al. process must be much higher than the maximum pressure allowable in the process of Margolis. Although Peterson, et al. do not disclose any specific pressure, they make clear that the pressure must be sufficient to mash and mangle a completely frozen block of meat to about 1/10th of its original thickness. In the Margolis process, on the other hand, a limited amount of pressure is applied to heated, unfrozen, fragile products such as meat patties and hot dogs to remove an amount of fat without significantly changing their appearance, texture, or flavor. Clearly, the fragile, heated products of Margolis would not retain the same appearance as their untreated counterparts if subjected to the mangling and mashing pressure required by Peterson, et al.

The Examiner's Reinterpretation of Peterson, et al. also Ignores Key Features Called For in Appellants' Claims

Even if the Examiner's reinterpretation of Peterson, et al. were correct, Peterson, et al. and the other references cited by the Examiner would still fail to disclose or suggest key features called for in Appellants' claims. In order to support each of his rejections, the Examiner relies throughout the Answer on the theory that: "The meat would push the belts outward in an attempt to expand back to its unpressed thickness when passing through the spaces between the pairs of rollers where there is no pressing action." (See, e.g., Answer, pgs. 10-11, emphasis added.) However, contrary to the Examiner's theory that the belts of the Peterson, et al. system conform to the meat products "where there is no pressing action," all of Appellants' claims expressly require that the pliable material must conform to and at least partially surround the food items "during said step of pressing" or "in said step of pressing." Appellants' claims 7 and 32 also specifically required that first and second belts of the pliable material conform to the food items during the step of pressing wherein the pressure is being applied to the belts by an opposing pair of rollers.

The Examiner also attempts to ignore the requirement of Appellants' claims that the pliable material, or the opposing surfaces of two layers of the pliable material, must conform to and at least partially surround the food items. On page 13 of the Answer, for example, the Examiner summarizes Appellants' claim 1 by stating merely that "it essentially requires only the pressing of a food product using a pliable material." The Examiner then cites a *Webster's* definition of the term "pliable" which does not include the word "conform" and thus concludes that essentially all that is required by claim 1 is

that the products be pressed between belts which are supple enough to travel around the conveyor rollers. However, Appellants' claims require not only that the material or belts be pliable but that the material or material surfaces must "conform to and at least partially surround the food items during the step of pressing."

If one also looks up the *Webster's* definition of the claim term "conform," it is readily discovered that the ordinary meaning of the term is to "adapt" and "to have the same shape, outline, or contour." (*Webster's Third New International Dictionary*) This is fully consistent with the usage of the term "conform" throughout the specification and claims of Appellants' application. Specifically, in accordance with the ordinary meaning of the word "conform," the specification of the patent application states that the surface of the pliable material used in the pressing step "can conform to the shape of the material (i.e., the food item) and surround that shape during pressing." (Specification, page 6, lines 7-9.) If two opposing belts or layers of the pliable conforming material are used, the layers will completely surround the food items during pressing if there is no gap between the layers and will partially surround the food items if there is any gap provided between the layers to adjust the pressure applied. (See, e.g., the specification, page 24.)

The Examiner's Interpretations of Nordin and GB957356 and the Bases for the Examiner's Attempted Combination of These References Run Completely Counter to the Actual Disclosures and Teachings of These References.

The Examiner states on page 10 of the Answer that it would have been obvious to one of ordinary skill in the art to incorporate the flexible fingers of GB957356 into the invention of Margolis, in view of Peterson, et al. and Nordin. Most of the Examiner's arguments concerning Nordin and GB957356 have already been addressed in Appellants'

Amended Answer. However, the Examiner now also contends that such combination would have been obvious since:

Nordin already included impact fingers (FIG. 1, #18), since flexible fingers would be less likely to break off in the meat if an obstruction is encountered, and since GB957356 teaches that flexible fingers were more effective than stiff fingers (page 1, lines 26-75).

Appellant urges that the flexible fingers of GB957356 would be ineffective when submerged. However, GB 957356 is being used in conjunction with Nordin, therefore both references must be considered. Nordin does not state what material was used for making the fingers (FIG. 4, #18). It would have been obvious to one of ordinary skill in the art to make the fingers of Nordin flexible, in view of GB957356, since flexible fingers would bend more easily and thereby avoid breaking off in the meat if they encounter a bone or some other obstruction.

(Answer, pages 23-24.)

Appellants respectfully submit that the Examiner's new arguments in support of the attempted combination of Nordin and GB957356 are incorrect in numerous respects. First, the use of flexible cords of the type disclosed in GB957356 runs completely counter to all of the requirements, purposes, and objectives of the Nordin method and apparatus. As explained, for example, in the Nordin patent at Col. 1, line 66 through Col. 2, line 5:

In brief, the present invention comprises a method and apparatus wherein a cut of meat is submerged in a suitable pickle or other solution and while submerged, the surface of the meat cut, preferably from both sides, is perforated with a multitude of perforations dispersed over substantially the entire surface of the meat. The perforations are formed to a substantial depth, preferably to penetrate substantially to the mid-section of each side as they are formed. . . .

Consequently, the Nordin system requires the use of spikes or tines which must be sufficiently rigid to penetrate and open the meat to a substantial depth. (Nordin, Col. 1, line 66 through Col. 2, line 5; Col. 2, lines 22-25.) Moreover, not only must the spikes or

tines be sufficiently rigid to penetrate halfway through the product but they must also be sufficiently rigid to stretch the resulting perforations formed in the meat as the spikes/tines are rotated. (See, e.g., Nordin, Col. 3, lines 67-73 and Col. 6, lines 8-10.)

In contrast, GB957356 teaches only the use of flexible cords which are not intended to penetrate the product to any substantial depth. GB957356 expressly requires and states that: “[t]he cords are deflected when striking the meat so that they cannot penetrate the meat to any substantial depth. . . .” (GB957356, page 2, lines 19-23; see also, page 1, lines 51-54.) Moreover, GB957356 expressly teaches against the use of spikes even for simply rubbing the surface of the product. (See GB957356, page 1, lines 27-47.)

#### Miscellaneous Items

In order to clarify the record in this appeal, Appellants wish to also note and correct the following misstatements appearing in the Answer concerning the nature and substance of many of Appellants’ arguments.

The Examiner states on page 11 of the Answer that: “Appellant argues that none of the references teach openings in the collagen protein layer. However, this was an inherent effect of Peterson, et al. due to their use of the same materials and process steps as those claimed by the appellant.” This statement is incorrect in at least two respects. First, what the Appellants said in the Amended Appellants’ Brief was that none of the cited references disclose or suggest pressing the food items with a pliable conforming material in a manner effective for forming openings in a collagen protein layer (Amended Appellants’ Brief, page 10). Second, the Examiner’s statement also directly contradicts

the actual contention of Peterson, et al. at Col. 3, lines 15-32 where it is indicated that, because of the decreasing width of the gap, the closeness of the rollers, and the way the product is allowed to flow/expand horizontally outward between the belts as it is mashed, the connective tissue of the product does not rupture.

The Examiner states on page 11 that: “Applicant argues that none of the references teach a pressure of 2-120 psi. However, Margolis clearly teaches a pressure of 2.5-12.0 psi (Col. 5, line 10).” This characterization of Appellants’ remarks is incorrect. What the Appellants actually said is that none of the cited references disclose or suggest pressing boneless and other food items with a pliable conforming material at a pressure of at least 2 psig and preferably between 2 and about 120 psig. (Amended Appellants’ Brief, page 10.) Appellants also discuss the pressure employed in the Margolis process on pages 17 and 19 of Appellants’ Amended Brief.

The Examiner states on page 11 of the Answer that: “Appellant argues that none of the references teach a thickness of at least 1/2” for the pliable surface.” Contrary to the Examiner’s statement, the Appellants actually state on page 10 of the Amended Brief that none of the cited references disclose or suggest pressing food items with a pliable conforming material which completely surrounds the food items (Claim 4) and/or is at least 1/2” thick (Claim 33).

The Examiner states on pages 12 and 19 of the Answer that: “Appellant argues that none of the references teach infusing a treatment liquid after pressing.” This, again, is not correct. Appellants actually state on page 10 of the Amended Brief that none of the cited references disclose or suggest infusing a treatment liquid into the food items after pressing the food items with a pliable conforming material.

The Examiner states on page 20 that: “Appellant argues that none of the references teach impacting the food during infusion.” What the Appellants actually said, however, is that none of the cited references disclose or suggest impacting the food items with flexible fingers while moving the food items through a liquid (Amended Appellants’ Brief, page. 10).

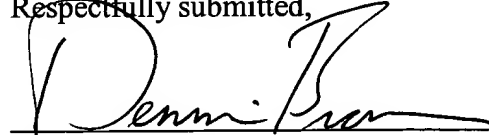
The Examiner also incorrectly states on pages 21 and 22 of the Answer that: (a) Appellants argue that none of the references teach a rotating paddle, and (b) Appellants argue that the references do not teach a submerged conveyor. However, once again, these statements do not correctly reflect Appellants’ statements or the nature of the Appellants’ arguments made on page 24 of the Amended Brief.

## CONCLUSION

In view of the above, Appellants respectfully submit that all of Appellants' pending claims are in condition for allowance. Appellants therefore request that all of the Examiner's rejections be reversed and removed and that all of the pending claims be allowed.

DATE: 4/6/2006

Respectfully submitted,



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